

# NK-N Type

## 14.3 x 9.3 mm Oven Controlled Crystal Oscillator

### FEATURE

- Dimension 14.3 x 9.3 x 6.5 mm typical
- 6-Pin SMD package
- Frequency Range, 10 MHz to 40MHz
- $\pm 30$  ppb stability over -40 to 85°C
- Stratum 3 (Overall  $\pm 4.6$  ppm including 20 years aging.)

### TYPICAL APPLICATION

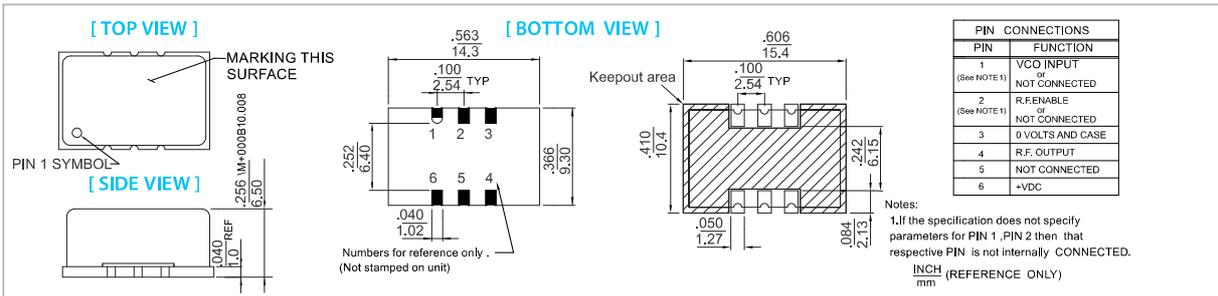
- SDH/SONET, Telecommunication base station
- Test and measurement equipment
- Synthesizer, Digital switch, Reference Timing Circuit
- Packet Timing Protocol (e.g. 1588)



RoHS Compliant

### DIMENSION

### SOLDER PAD LAYOUT



### ELECTRICAL SPECIFICATION

Parameter	Min.	Typ.	Max.	Unit	Test Condition & Notes
<b>Output</b> Frequency		20		MHz	Available frequency range is from 5MHz to 40MHz. Standard frequencies are 10, 12.8, 19.2, 20, 25, and 38.88MHz.
Waveform		Rectangular			
Level		HCMOS			
"1" Level	2.4			V	
"0" Level			0.4		
Load		15		pF	
Duty Cycle	45	50	55	%	@ +1.65 V
Spurious			-60	dBc	
<b>Frequency Stability</b> Ambient	-30		+30	ppb	-40°C to +85°C, referenced to +25°C Refer to Freq. Stability Vs Temp. Range table.
Aging					
Daily	-2.0		+2.0	ppb	after 30 days
Yearly	-0.4		+0.4		
10 years	-2.0		+2.0	ppm	
Voltage	-5		+5	ppb	$\pm 5\%$ Change
Load	-10		+10	ppb	$\pm 10\%$ Change
Warm-up	-0.1		+0.1	ppm	In 5 minutes @ +25°C, referenced to 1 hour
Phase Noise @ 20 MHz		-98	-92	dBc/Hz	@ 10 Hz
		-126	-120		@ 100 Hz
		-145	-140		@ 1 kHz
		-152	-150		@ 10 kHz
<b>Electrical Frequency Adjustment</b>					
Range			-5.0	ppm	VCO @ 0V
Control	5.0			V	VCO @ 3.3V
Slope		1.65	3.3		
Input impedance	100			Kohm	
<b>Input Power</b> Voltage	3.135	3.3	3.465	V	5.0V input voltage is available. Please contact us for detail information.
Current		500	600	mA	@ turn on
Steady state		0.5	0.6	W	@ +25°C

### FREQ. STABILITY vs. TEMP. RANGE

Temp. (°C)	ppb	$\pm 10$	$\pm 20$	$\pm 30$	$\pm 50$
-20 ~ +70		△	○	○	○
-40 ~ +85		X	△	○	○

\* ○: Available △: Conditional X: Not available

Note: not all combination of options are available. Other specifications may be available upon request.

Specifications subject to change without notice.

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